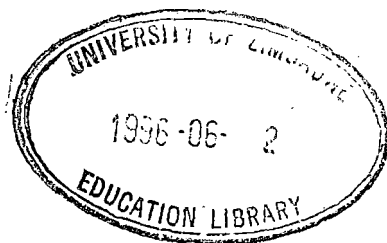


**Volume 5 Number 2 July 1993 ISSN 1013-3445****CONTENTS**

Education and Training Outcomes : University Graduates in Zimbabwe during the 1980s <i>P. Bennell and M. Ncube</i>	107
The Evaluation of Teacher Professional Competencies in Former Non-White Namibian Schools <i>Donton S. J. Mkandawire and Chipso Marira</i>	124
Nature of Science (NOS) in Science Education: Possibilities and Constraints in a Developing Country, Zimbabwe <i>Overson Shumba</i>	154
Schooling and the Drought in Zimbabwe: The views and Reactions of Primary School Senior Teachers <i>Rob Pattman and Tamuka Shumba</i>	190
Problems of Conducting Educational Research in Zambia <i>Choshi D. Kasanda</i>	206



# THE EVALUATION OF TEACHER PROFESSIONAL COMPETENCIES IN FORMER NON-WHITE NAMIBIAN SCHOOLS

*Donton S J Mkandawire*  
*University of Namibia*  
*and*

*Chipo Marira*  
*University of Zimbabwe*

## ABSTRACT

*The relationship between teacher competence and learner progress has been a subject of lively debate for several decades, particularly in the first world countries. This subject has also attracted widespread attention in Namibia, especially after independence because it has been suggested that teacher competence, particularly in former black schools is ineffective and encourages rote learning and little thinking. The national examination low pass rates continue to be an area of great concern. With the examination reforms currently under way in the country in which continuous assessment will play a major role in evaluation, concern has been raised regarding teacher competence in educational assessment of students. The study discusses the integration of theory and practice by teachers in former non-white schools and the impact this has on the evaluation of their professional competencies in teaching and educational assessment of their students.*

## INTRODUCTION

Teacher competence is a complex but dynamic concept which should be understood within cultural as well as historical epochs and the practice should be seen as being in the classroom.

The traditional approach to teacher competence has been exemplified by Coleman (1966) and Plowden (1976) in which the emphasis has been,

among other things, to determine the degree to which individual teachers influenced scholastic achievement, employability, as well as social mobility of individual learners. Put another way, the impact teachers have on the production process of education, i.e. input, process, output, and eventually the educational outcome of individual students (Windham, 1990).

However, over the years the traditional approach to teacher competence has shifted from emphasizing economic and policy inputs that could be manipulated in order to raise the examination results towards examining the educational practices or processes which take place in the classroom to explain differences in student and/or school performance.

Educational quality is related to content and process of education. Insight into the content and process requires collection of data at the level which education occurs which in the classroom. Windham (1987) analysis of the efficiency of education acknowledges the impact of professional competence of teachers on the educational process and that teaching skills employed in the classroom by teachers and the process of learning are critically important to quality education. It has been vehemently argued that improving the quality of teaching skills has greater impact on student learning than improving the physical infrastructure of schools (Chapman et al, 1989).

The relationship between teaching practices (skills) and learner progress has been a subject of lively debate for several decades particularly in the United Kingdom and the United States of America. This subject has also attracted widespread attention in Namibia, especially since independence. It has been suggested that the teaching practices, especially in former non-white schools, encourage rote learning and little thinking. The failure rate continues to be high especially among the black learners. The pass rates for the past 12 years are depicted in Table 1 for external examination results at the completion of junior secondary schools and senior secondary schools.

**TABLE 1****SECONDARY SCHOOL PASS RATES FOR THE PAST  
12 YEARS**

	1980	1981	1982	1983	1984	1985
Junior Sec. Schools	43.5	59.2	47.7	35.7	47.9	36.3
Senior Sec Schools.	83.9	75.9	66.0	60.6	54.1	59.3
	1986	1987	1988	1989	1990	1991
Junior Sec Schools	33.1	28.1	24.0	19.4	-	37.1
Senior Sec. Schools	52.0	51.8	58.7	59.4	49.0	42.0

**Source:** Ministry of Education and Culture, 1991

The major concern of this study was to observe and evaluate teaching practices (skills) of teachers in the classrooms. Curriculum can operate at different levels in the school system. There is the curriculum, designed and developed by the custodian of the education system, the formal curriculum being those approved proposals and designs of the ideal curriculum; the curriculum as is interpreted by teachers; the experiential curriculum as is experienced by learners, including what they derive from the functional curriculum; and the operational curriculum being what actually goes on in the classroom and is very much dependent on individual teacher professional competence.

It was recognised that a realistic description of teacher skills would involve a large number of specific behaviours and attitudinal dimensions. Unfortunately in Namibia very little work has been done in this area.

In countries where considerable research has been done, findings have brought about few clear cut conclusions as to which specific teacher skills contribute to teacher effectiveness as measured by pupil academic progress and/or achievement, although as Woods (1990) would put it, literature abounds with examples of the sheer tedium and ineffectiveness of unrelieved, systematic transmission of routinized teachers who are regimental like "horses, all running on the same track at the same speed" (Elbaz, 1981, 64).

Notwithstanding this fact, it would seem that an important factor affecting what happens in the classroom is the teacher's own philosophy which includes aims, learning development, motivation, attitude to teaching, and learners.

This study involved 330 randomly selected classes and teachers in former non-white schools. Systematic observations of 330 randomly selected classes, content analysis of 47 video recorded lessons of live classes, interviews and administration of an attitude questionnaire to 844 teachers, were carried out throughout the six education regions of the country. The focus was to study:

1. Teacher characteristic (practices) in the classroom
2. Teacher-learner interaction
3. Learner-learner interaction
4. Learner characteristics
5. Teacher attitude to the profession
6. Teacher assessment and monitoring skills

The importance of classroom interaction is generally seen as a desirable activity in reaching cognitive and social goals. Teachers may encourage or discourage relevant interaction. Similar to any other educational goal, its attainment can be influenced by the teacher's verbal and non-verbal classroom practice. As receivers of communication, learners further communicate their responses and reactions to the messages of the teacher. Learners, too, can be primary sources of communication in which the teacher's reactions and responses furnish feedback to the learners. Classroom interaction is influenced by how messages - both verbal and non verbal are sent, received, and how feedback is expressed.

Verbal communication in the classroom is important because it gives opportunities for useful dialogue between teachers and learners, enabling learners to express their ideas and thoughts in a language but, unfortunately, verbal classroom practices have been perceived as the prime means of classroom communication (Hyman, 1968). However, once again relative importance has also been given to non-verbal practices within the classroom environment. It has been recognized that cognitive and social aspects of the classroom may be influenced by the non-verbal practices of both learners and teachers (Galloway, 1970).

Rosenshire (1968) and Balzer (1969) examined teacher effectiveness and reported that findings indicate that the use of non-verbal gestures and movement significantly differentiated teacher effectiveness. Their findings showed that gestures and movements by teachers could have the effect of arousing attention, and that verbal communication could be more effective when such non-verbal behaviours as gestures and movement are employed.

Often non verbal practices reinforce verbal statements and can be a prominent form of teacher expression. Occasionally, though verbal and non-verbal messages can be in conflict with each other when teachers verbally express one message but non-verbally behave in such a way as to convey another message.

Torrance (1980) found out that when teacher verbalizations were in conflict with their non-verbal behaviours, learners were influenced by the non-verbal behaviours. He stated:

that even though teachers say 'the right words' and pupils say that they perceive their teachers as having favourable attitudes, the teacher's 'real attitude' is likely to 'show through' and to affect the emotional reactions.

It appears that when teachers say one thing but actually mean another, learners are more likely to pay attention to how the teachers behave rather than what the teachers say. The old saying that "do as I say and not as I do" apparently does not work with learners. It seems that teachers' competence in facilitating learning in order to achieve education objectives, be it cognitive, affective, or psychomotor, could be significantly influenced by the non-verbal skills of teachers and learners in classroom settings.

The importance of body language as a means of communication in the classroom is apparent. Both learners and teachers use body language to communicate in the classroom.

## **PROCEDURES**

1. Structured-Observation Schedules were constructed to assess and rate selected teaching practices demonstrated by teachers in classrooms.

The schedules were designed to observe those teaching practices which contribute to teacher effectiveness, that include but are not limited to teaching methods and style, teacher initiating behaviour related to pupil participation, pupil initiated behaviour, subject and assessment competency of teachers, and attitude of teachers as demonstrated in live classrooms.

The observational schedules were constructed in such a way as to specify teacher behaviours which were observed and allowed for a frequency tally of those behaviours within five minute block period. Some items were

rated on a three point scale, i.e. above average, average, not at all, to indicate the extent to which a particular teaching practice was used by the teacher. No time limit for recording frequency of specified behaviour was established. Trained raters recorded the occurrence of a particular practice by keeping a frequency tally and/or rating the manifestation of the classroom practice using the three point scale.

There were six logical sections on the classroom observation schedule covering aspects of teacher practices (Prac) associated with effective teaching in bringing about the desired cognitive, affective and psychomotor instructional objectives. The first category looked at the type (method) of teaching style the teacher was using, i.e. lecturing, demonstrating/discussing, individual work or individualized instruction, group-work - teachers use of teaching aids.

The second section contained teacher characteristics defined as "initiating behaviours" of the teacher which in turn initiated learner interaction, e.g. the use of questioning technique, amount of freedom learners are given in class, etc.

The other section was on the responding behaviour of the teacher which could be either verbal or non-verbal in giving reinforcement or feedback to learners, e.g. teacher praises or criticizes learners or, through non-verbal language, acknowledges learner's responses and positively reinforces their behaviour or where the teacher responds to either or non-verbal cues of the learners. These are some of teacher effective characteristics that encourage classroom interaction (Johnson, 1968).

Another section was to tally or rate those behaviours initiated by learners exhibiting characteristics like interacting with fellow learners, activity, and/or teachers.

Another section of the schedule rated the extent classroom learning activities were selected and/or organized by the teachers, including the use of teaching aids. The rating of class organisation, physical infrastructure, resources and space was also done.



Another section was to rate teachers mastery of subject content, organisation and appropriateness of instructional methods and level of language and delivery competence in assessing students' performance.

Finally, teachers attitude to the profession was determined through teachers responses to the attitude questionnaire which was administered to 844 teachers in the study.

## RESULTS

### A. Teaching Methods Deployed

1. Figure 1 indicated that from all the classroom observations made and content analysis of the video recordings made. 91.2 per cent of the teachers in schools used lecture or chalk- and-talk method. Other methods were used by only 8.8 percent of the teachers observed.

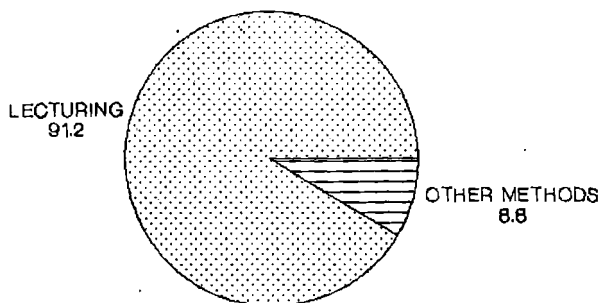


FIGURE 1:TEACHING METHODS

2. Figure 2 indicates that when demonstration was necessary as part of the instructional activity, only 69.7percent used this method. The remainder used other teaching methods which were ineffective for the effective instruction of the objective being taught.

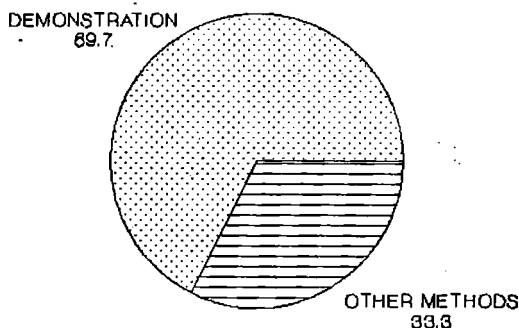


FIGURE 2: TEACHING METHODS

## **A. TEACHER INITIATING AND RESPONDING BEHAVIOURS (CHARACTERISTICS)**

1. In considering teacher characteristics or initiating behaviour of teachers conducive to effective teaching which in turn initiated learner interaction, the results are depicted in Figure 6 (see appendix), and summarized as follows:

Teachers Practice (Prac) 5 in Figure 6 depicts teacher classroom behaviour where teachers gave positive reinforcement to learners'

questions. 77 percent of teachers observed demonstrated this characteristic effectively.

2. Practice 6 depicts teacher behaviour where teachers criticized and justified their authority, this was only observed 38 percent of the time.

3. Practice 7 depicts teacher asking questions requiring recall of factual knowledge. This formed the majority level of questioning by teachers and was evident 85 percent of the time.

4. Teacher-initiated activity depicted by Practice 8 was observed 57 percent of the time. With regard to teachers asking problem solving questions, this was only manifested 58 percent of the time. Although the responses were often poor from the learners, 80 percent of the time as depicted in Practice 10, teachers encouraged their learners to ask questions.

5. Practice 11 illustrates that 53 percent of the time teachers accepted ideas from their learners and other times they were rejected even though ideas from learners did have merit. Teacher interaction with individual learners occurred 70 percent of the time as depicted in Practice 14, whereas only 25 percent of the time teachers interacted with learners doing group work. The comparison of classroom behaviours demonstrated by teachers is illustrated in Figure 6 (see appendix).

## **C. LEARNER INITIATING AND RESPONDING BEHAVIOURAL CHARACTERISTICS**

1. The learners characteristics observed in the classroom are depicted in Figures 7 and 8 (see appendix) where Practice 12 illustrates the extent learners asked questions. This was observed only 30 percent of the time, whereas Practice 13 depicts instances where 30 percent of the time learners interacted with fellow learners.

2. The feedback on group activity from teachers was observed 22 percent of the time, as depicted in Practice 16.

3. Participation by learners through asking questions was 53 percent as depicted in Figure 8, where as participation by learners through answering questions observed 91 percent of the time as illustrated by Practice 19.

4. The extent of learner/learner interaction in Practice 23 was observed 43 percent of the time, but teacher/learner interaction largely through teacher questions and learners answering questions was 87 percent as depicted in Practice 24 in Figure 8 (see appendix).

## **D. SELECTION AND ORGANISATION OF LEARNING ACTIVITIES**

1. The basis of selecting and organizing learning activities is depicted in Figure 9 (see appendix) where Practice 27 indicates that 86 percent of the time interest of the learners was taken into consideration.

2. 91 percent of the time as depicted in Practice 28 the ability of learners was taken into consideration.

3. 21 percent of the time gender was considered as depicted in Practice 29.

4. Continuing and sequencing were taken into consideration 90 percent and 93 percent respectively as illustrated by Practices 30 and 31.

5. The appropriate selection and organisation of teaching aids was effectively demonstrated by 50 percent of the teachers observed as depicted in Practice 32.

## **E. TEACHERS' COMPETENCE OF SUBJECT CONTENT**

1. With regard to teacher's competence in Figure 10 (see appendix) based on evaluation of teacher's mastery of subject content (Practice 36), appropriateness of instructional methods (Practice 37), the level of

subject content (Practice 38), adequate of content selected (Practice 39) and extent of monitoring of learner activities (Practice 41) the findings were 97 per cent, 88 per cent, 97 per cent, 96 percent and 82 percent respectively.

2. The overall comparative levels of effective teaching observed on all teacher characteristics is illustrated in Figures 12 and 13 (see appendix) where 24 percent of teachers observed were *above average*, 66 percent of teachers were *average*, and 20 percent were *below average*.

## F. TEACHERS' ATTITUDE

The comparative teacher results from the questionnaire administered to 844 teachers are depicted in Figure 14 (see appendix) where:

1. 29 percent of teachers had very positive attitudes to teaching;
2. 35.9 percent had positive attitudes to teaching;
3. 12.3 percent had neutral attitudes about their role in teaching, and
4. 9.5 percent had very negative attitudes and wanted to leave the teaching profession altogether.
5. 93 percent of the teachers observed generally had a friendly attitude to learners.

## G. TEACHERS' COMPETENCE IN EDUCATIONAL ASSESSMENT OF STUDENTS

The use of assessment to make day to day instructional decisions comes from cognitive psychologists and educational measurement specialists (Snow et al, 1989). They advocate that educational assessment in the form of tests, assignments, etc. must be an integral part of instruction; must help the individual student to gain the most from teaching or instruction and

help teachers adapt instruction to enhance the learning of individual students. The procedures of measurement and evaluation embrace such functions as monitoring of student progress, the diagnosis of student strengths and weaknesses, and decisions relating to teaching strategies which are closely tied up with the quality of learning and provide valuable feedback to both the learner and the teacher.

Cook (1951) in discussing the functions of educational measurement and evaluation simply concluded that:

all functions of educational measurement are concerned either directly or indirectly with the facilitation of learning.

Since that time it has been realized more and more as Tyler (1975) put it that the role of facilitation of learning through assessment of students requires a very close link between assessment and teaching. To achieve this goal would require combined efforts of cognitive psychologists, teachers, and educational measurement specialists if assessment is going to become not "as a process quite apart from instruction, but rather as an integral part of it" (Tyler, 1951, 47).

The people entrusted with teaching must have a good understanding of a theory of curriculum, instruction and learning, develop a better understanding of the cognitive processes of learners, and to be competent in educational assessment of their students in order to achieve quality education in schools. Measurement, assessment, and evaluation are facets of curriculum and, seen in this context, they should be subservient to syllabuses designed for schools.

Similarly, the curriculum instruction dualism which has emerged as a veritable doctrine adds further confusion because to dissect curriculum from instruction is to embrace a dualism which can lead to educational discontinuity and isolation. At the same time the searching for a theory of instruction apart from a theory of curriculum is also fruitless. Instruction should be viewed as a professional activity in education through which teachers provide those conditions that will foster learning and, according

to Tanner et al (1980) activities included in instruction are designing, developing, and implementing methods of instruction, managing implementating methods of instruction, and evaluating the effectiveness, and quality of instructional methods.

Each of these activities is an activity of professional practice within instruction. Measurement, assessment, and evaluation are therefore activities within instruction and teachers must develop competencies in them as well.

Once we think of (1) the concept of curriculum design being synonymous with education, (2) that instruction is viewed as a professional activity in curriculum, (3) reject the doctrine of curriculum-instruction dualism or measurement-instruction dualism, (4) that measurement of assessment is included in curriculum and instruction - then the organisation of course curriculum should have an impact on teaching, and evaluation.

Unless we can bring about a kind of constructive mesh between curriculum, instruction, assessment in teacher education we will continue to separate assessment artificially from teaching and learning and spend substantially in time and money without achieving comparable returns in respect to quality education in our schools.

Teachers must first and foremost acquire the skills of integrating assessment with instruction which no doubt will depend on clear understanding of course curriculum being offered, their goals and the process of instruction. According to Linn (1989) the biggest and the most challenging objective of educational measurement today still remains in making it do a better job of facilitating learning for students and not predicting who will achieve or describing the achievement of students.

Proper application of measurement, assessment, and evaluation of student performance is an essential part of teaching and good teaching which results into effective learning cannot exist without good student assessment. The present curriculum and examination reforms in Namibia are calling for greater teacher involvement in assessment of their students

and the scope of teachers' professional role and responsibilities for student performance which the majority of Namibian teachers do not have, must include:

1. Activities occurring prior to instruction such as understanding students' motivations and their interests and planning instruction for individuals or groups of students.
2. Activities occurring during instruction such as monitoring student progress toward instructional goals, motivating students to learn, and evaluating the extent of student attainment of instructional outcomes.
3. Activities occurring after the appropriate instruction such as describing the extent to which each student has attained instructional goals, recording and reporting assessment results for evaluation and decision-making, evaluating the effectiveness of instruction, and effectiveness of curriculum.

Standards for teaching competence in educational assessment of students developed by the American Federation of Teachers, National Council on Measurement in Education, National Education Association (1990), are also applicable to classroom teachers, some of which are:

1. Teachers should be skilled in choosing assessment methods appropriate to instructional decisions. This includes employing fair assessment methods which are a prerequisite to good use of information to support instructional decisions. Teachers should be well-acquainted with a broad range of assessment alternatives and their strengths and weaknesses.
2. Teachers should be skilled in developing assessment methods appropriate for instructional decisions. With the examination reforms now underway and the introduction of continuous assessment, teachers will be expected to construct their own assessment or measurement procedures it is imperative that they have the conceptual and application skills in both select and construct response procedures.



3. Teachers should be skilled in using assessment results when making decisions about individual students, planning teaching, developing curriculum, and school improvement.

4. Teachers should be skilled in developing valid student grading procedures which use student assessment. The grading procedures in schools should be criterion referenced and not norm referenced. The former uses test scores which interpret a student's score comparing it to the course's instructional objectives expected to be mastered at every level, whereas the latter compares a student's test scores to fellow students.

## DISCUSSION AND CONCLUSION

It was striking to see the uniformity of teaching styles by teachers through the lecturing method, close ended recall questioning by teachers was the principal form of interaction in the classroom which initiated brief simple answers of factual knowledge from the learners. Teachers rarely varied in their style of questioning to suit different occasions or to make good use of learners' responses to carry the work forward. The findings of this study confirm that the majority of teachers in former non-white Namibian schools greatly rely on chalk and talk lecturing method and that they are vocal in using close ended recall questions and are dominant figures in the classroom.

It was obvious then that the majority of teachers perceive their role as lecturing factual knowledge and the learners to listen and absorb. Because of this teacher/learner interaction was through teacher recall questions, talking to the whole class and in few instances learners were engaged in group work or meaningful individual work. This observation is contrary to the criteria of good teaching as stated by *The New Teacher in School* (DES, 1982) in which good teacher characteristics are supposed to show:

a quite, calm, relaxed, good-humoured attitude... combined with firmness and a sense of purpose; a demonstration of interest in and knowledge of the pupils individually and an

appropriate level of expectation of them; and mutual respect... the teachers being sensitive to the needs of the pupils and respecting their contributions whatever their limitations. Where these qualities were shown, pupils were confident enough to play a full part in the lessons, to offer their own ideas and ask questions, or seek help when unsure, while the teacher could blend praise and encouragement with an occasional reprimand, the latter without arousing resentment:

If the present state of education has been described as "inefficient, ineffective, wasteful... only succeeded in producing illiterate, semi-literate black youths" (Angula, 1990) one contributory factor is that teacher skills which include lecturing at learners, asking recall questions without giving learners opportunities to discuss information given or expressing their opinions are not conducive to proper learning environment and are ineffective which would lead to continued rote learning and less thinking.

Although not much research has been done to find out what actually goes on in the classroom in the third world, these findings are similar to the International Association for the Evaluation of Education Achievement (IAEA) where in Nigeria it was found out that two thirds of the classroom teachers were lecturing to the whole class and the remaining time was spent on working on assignments (Carew and Lightfoot, 1970; Oakes 1982).

The findings suggest that a great deal of resources might need to be spent on both pre and in-service training of teachers to equip them with those teacher characteristics (behaviours) which are associated with teacher competencies so that they are able to deploy teaching methodologies that are co-operatively structured, participatory and highly interactive (Fountain, 1992).

Measurement, assessment, and evaluation if integrated with instruction can facilitate student learning. It is of utmost importance that teachers should be competent in educational assessment of their students.

## REFERENCES

- Angula, N. (1990). *Education in transition: nurture our future*. Ministry of Education and Culture, Namibia.
- Balzer, L. (1969). Nonverbal and verbal behaviours of biology teachers. *The American Biology Teacher*. 31,226-229.
- Carew, J. & Lightfoot, S.L. (1970). *Beyond bias: perspectives on classrooms*. Cambridge, M.A. Harvard University Press.
- Chapman, D. W. & Snyder, C. W. Jnr. (1989). *Is teacher training associated with teachers' classroom behaviour in Botswana?* Gaborone, Botswana Junior Secondary School Improvement Project.
- Coleman, J. (1966) *Equality of Educational Opportunity*. Washington, DC: U.S. Government Printing Office.
- Cook, W. W. (1951). The functions of measurement in the facilitation of learning. In E F Lindquist (Ed.), *Educational Measurement*. Washington DC: American Council on Education.
- Department of Education and Science (1982). *The new teacher in school*. London HMSO 6-7.
- Elbaz, F. (1981) The teachers practical knowledge - Report of a case study. *Curriculum Inquiry*, 11, 1,43-71.
- Fountain, S. (1992). Teaching strategies of education for development. *Education for Development*, 31, 7-9.
- Galloway, C. M. (1970). *Teaching is communicating: nonverbal language in the classroom*. Washington, DC: The Association of Student Teaching.

Hyman, R. (1969). *Teaching vantage points for study*. New York: J B Lippincott Co.

Johnson, R. B. (1968). The effects of promoting practice, and feedback in programmed videotape. *American Educational Research Journal*, 5, 73-79.

Linn, R. (1989). Current perspectives and future directions. In Linn, R. L.(Ed). *Educational Measurement*. Washington DC: National Council on Measurement in Education, American Council on Measurement in Education, American Council on Education, 3rd Edition, 1-9.

Mkandawire, D. S. J. (1991). Criterion and norm-referenced standard setting in public examinations. *In Boleswa Research Journal*, 8, 59-66.

Oakes, J. (1982). Classroom social relations: exploring the Bowles and Gintis hypothesis. *Sociology of Education*, 55, 197 - 212.

Plowden Committee (1967). *Children and their primary schools*. A report of the Central Advisory Council for Education: Her Majesty's Stationery Office.

Rosenshire, B. (1968). Objectively measured behavioral predictors of effectiveness in explaining. Paper. Symposium on Teacher's explaining behaviour. American Educational Research Association.

Snow, R. E. and Lohman, D. F. (1989). Implications of cognitive psychology for educational measurement. In Linn, R. L. (Ed). *Educational Measurement*. Washington DC: National Council on Measurement in Education, American Council on Education, 3rd Edition, 263-330.

Tanner, D. et al (1980). *Curriculum development: theory into practice*. Macmillan Publishing Co.

Torrance, E. P. (1960). Teacher attitude and pupil perception. *Journal of Teacher Education*, 11, 97-102.

Tyler, R. W. (1951). The functions of measurement in improving instruction. In Lindquist, E. F. (ED.), *Educational Measurement*. Washington DC: American Council on Education.

Windham, D.M. (1987). *Indicators of education effectiveness and efficiency*. Draft monograph, Tallahassee: Educational Efficiency Clearinghouse.

Windham, D. M. (1990). Improving the efficiency of educational systems. *IEES*, USAID project.

Woods, P. (1990). *Teacher skills and strategies*. The Falmer Press.

**APPENDIX**

Figure 3 indicates that where individual work was the most effective method of instruction, only 54.7 % of the teachers used it. The 45.3 % used methods which were less effective.

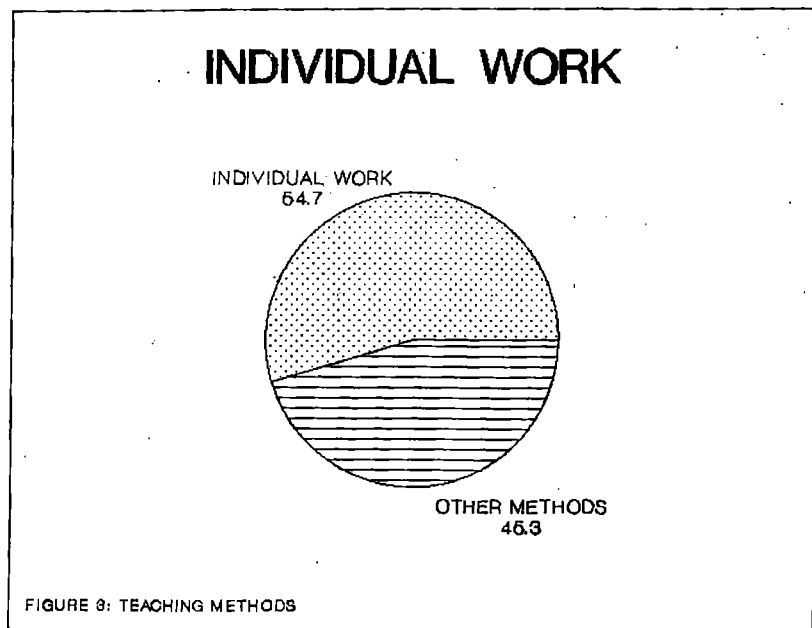
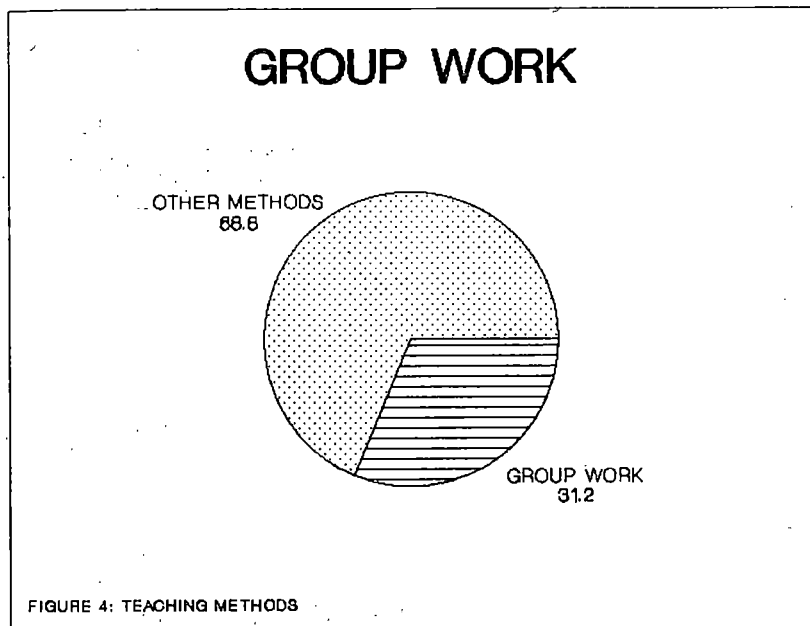
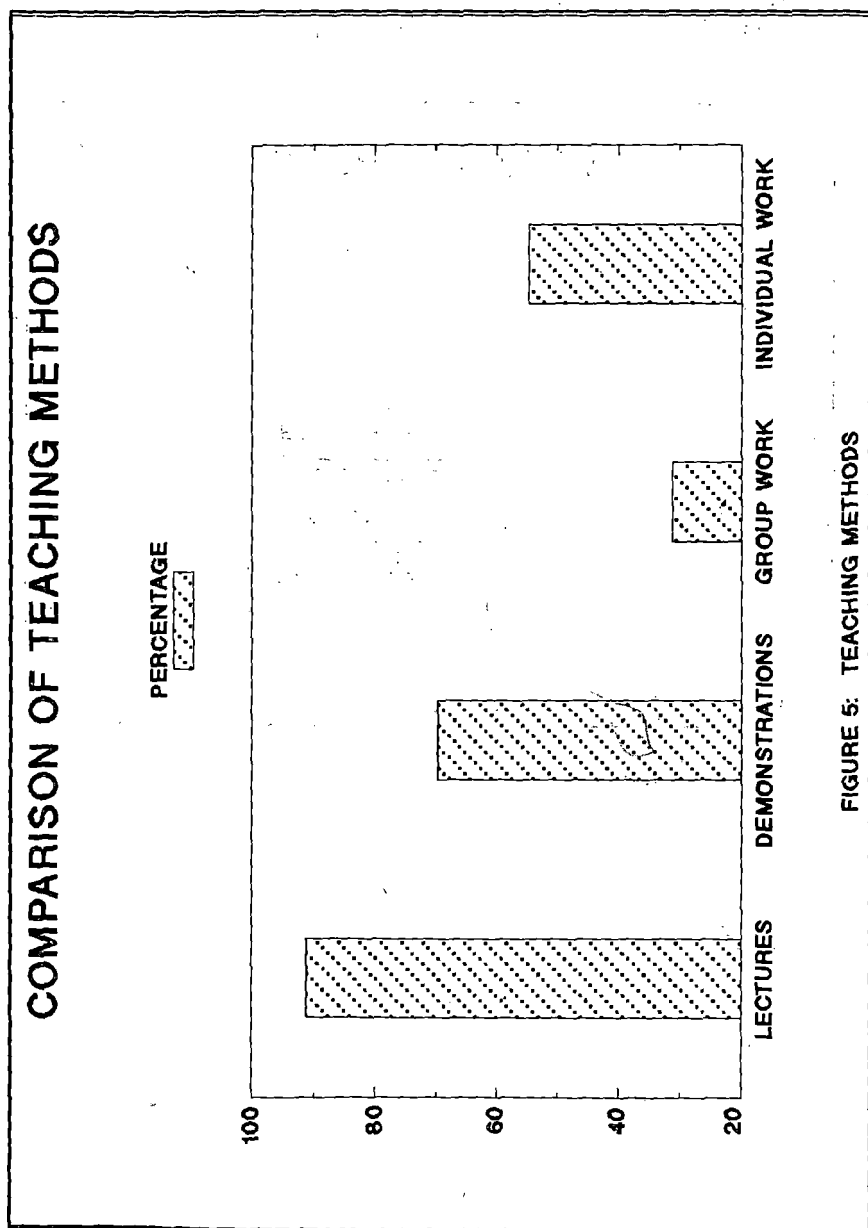


Figure 4 indicates that where group work could have been the most effective, 68.3% of the teachers used it effectively.







# TEACHERS CHARACTERISTICS

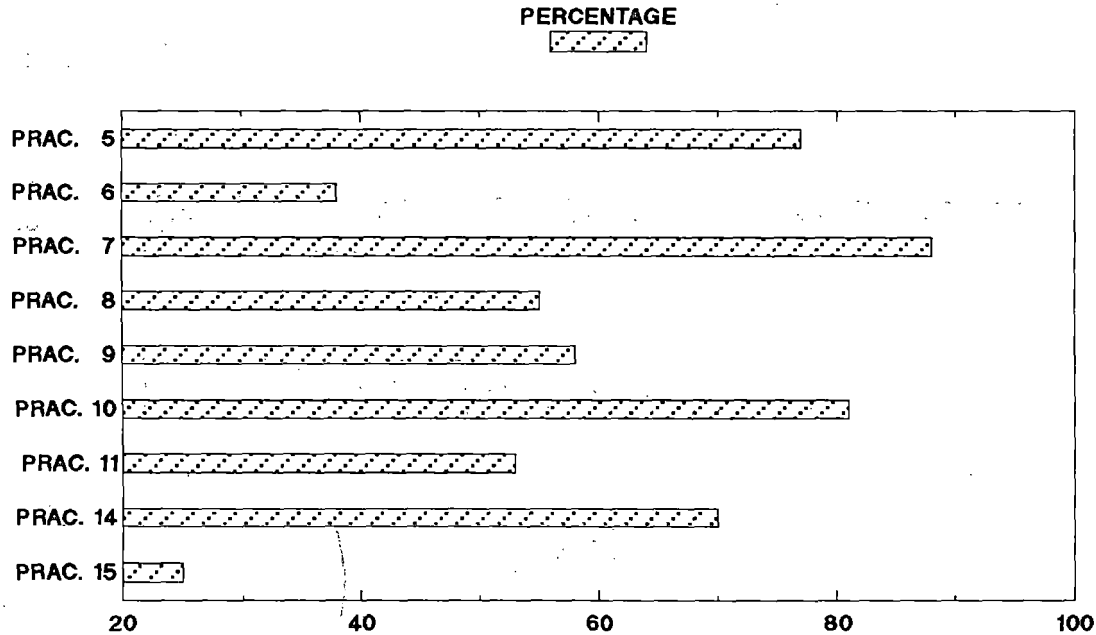


FIGURE 6: CLASSROOM BEHAVIOUR

# LEARNERS CHARACTERISTICS

PERCENTAGE

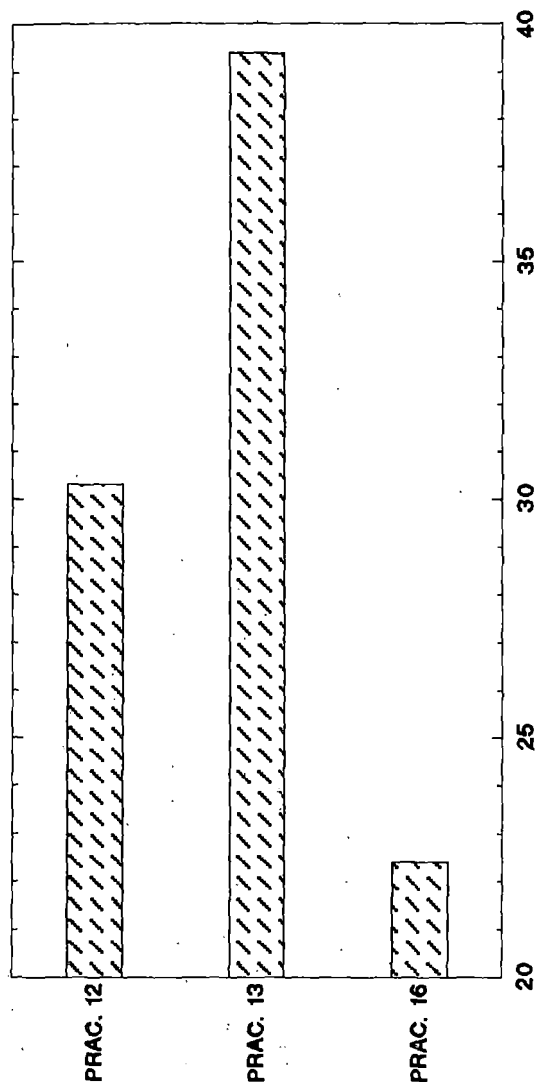


FIGURE 7: CLASSROOM BEHAVIOR

## TEACHERS CHARACTERISTICS

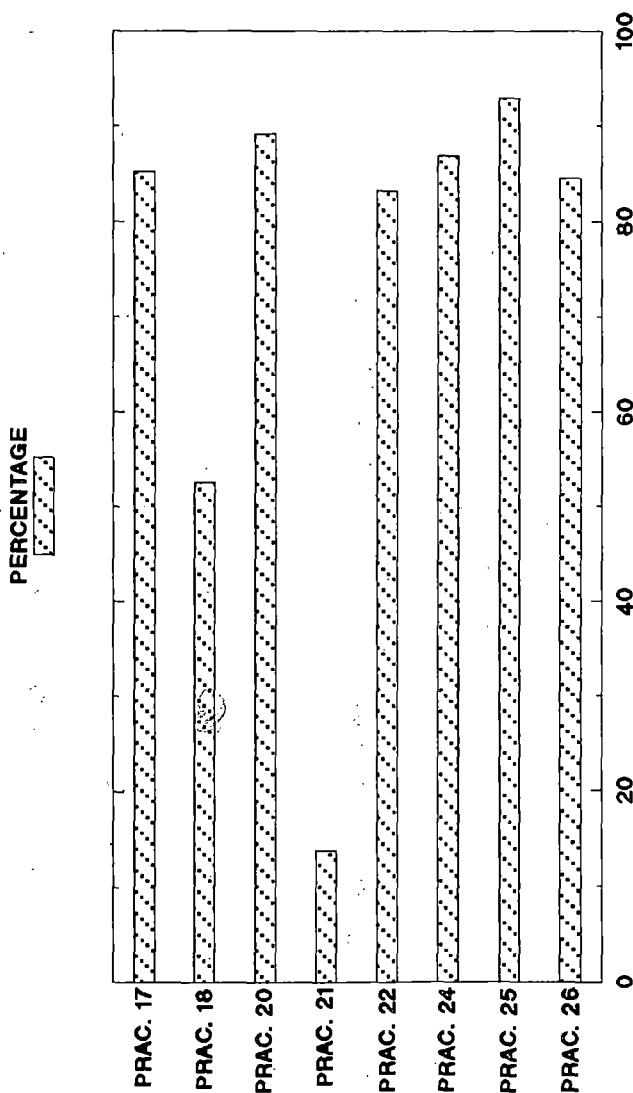


FIGURE 8: CLASSROOM BEHAVIOUR

# BASIS OF ORGANISATION OF LEARNING ACTIVITIES

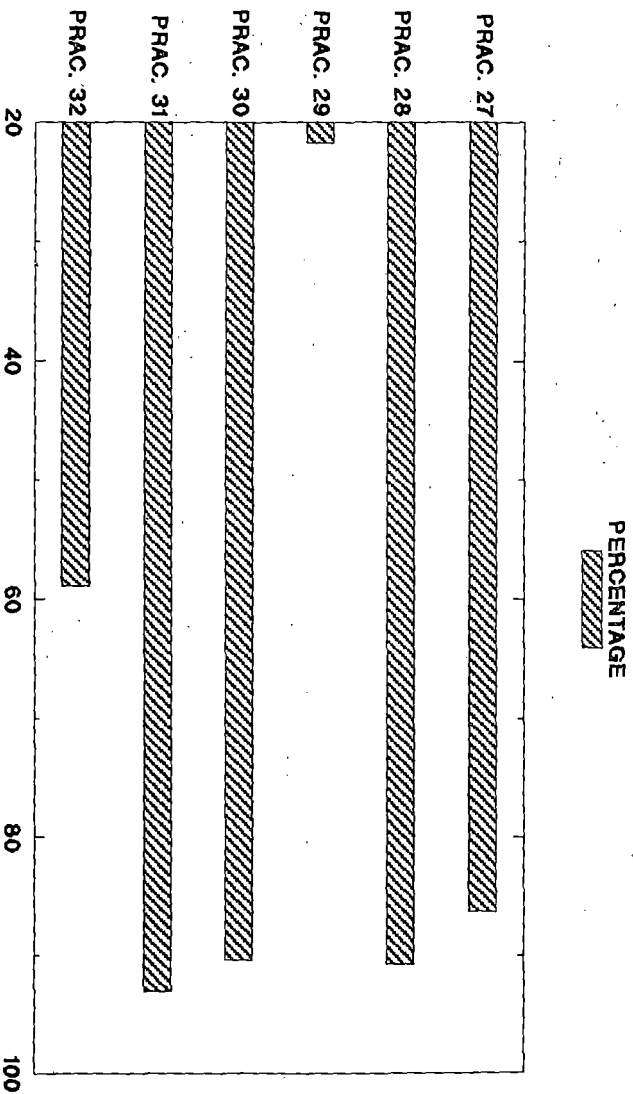


FIGURE 9: LEARNING ACTIVITIES

# TEACHERS COMPETENCE

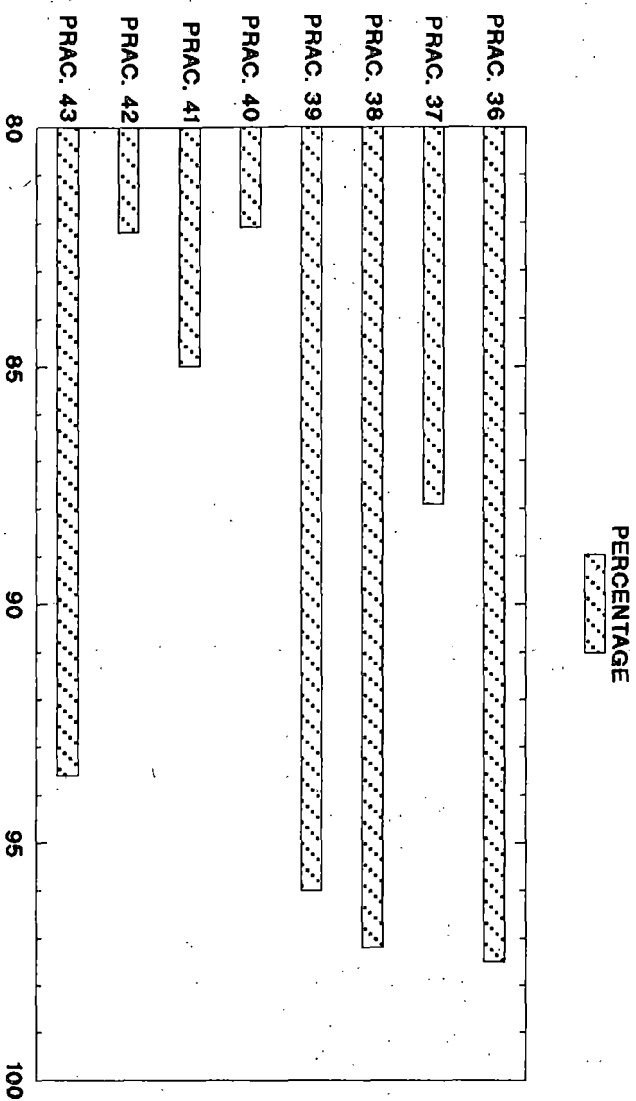
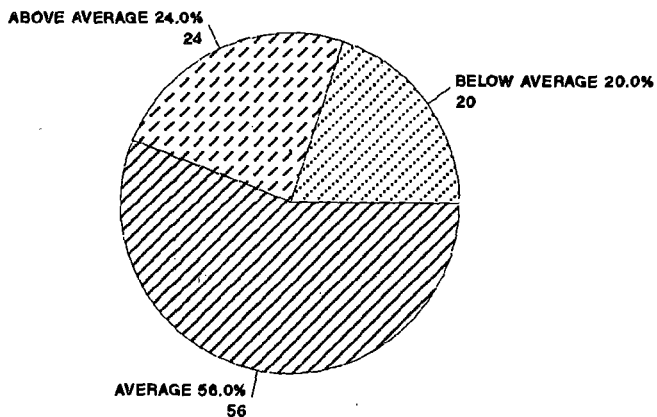
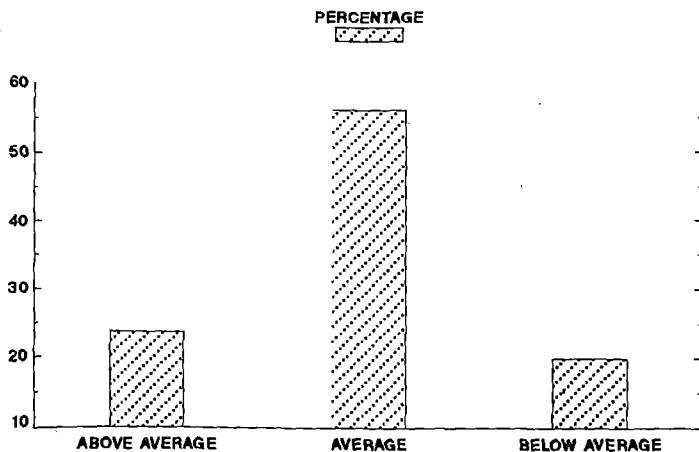


FIGURE 10: CLASSROOM BEHAVIOUR

**EFFECTIVE TEACHING OBSERVED****FIGURE 11 COMPARATIVE LEVELS OF EFFECTIVE TEACHING****EFFECTIVE TEACHING OBSERVED****FIGURE 12 COMPARATIVE LEVELS OF EFFECTIVE TEACHING**

# COMPARATIVE TEACHER ATTITUDE ON ALL ITEMS

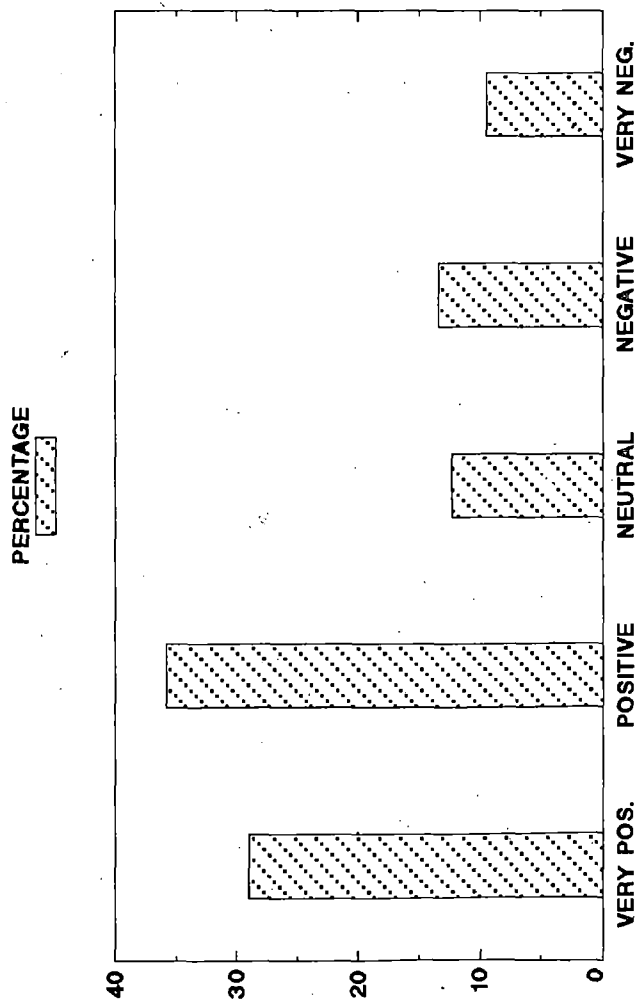


FIGURE 13: TEACHERS ATTITUDE TOWARDS TEACHING



This work is licensed under a  
Creative Commons  
Attribution – NonCommercial - NoDerivs 3.0 License.

To view a copy of the license please see:  
<http://creativecommons.org/licenses/by-nc-nd/3.0/>

This is a download from the BLDS Digital Library on OpenDocs  
<http://opendocs.ids.ac.uk/opendocs/>